

**RECEIVED
CENTRAL FAX CENTER**

SEP 16 2008

PROPOSED EXAMINER AMENDMENT

1. (Currently amended) A computer system for transferring data from a first storage unit in a storage system to a second storage unit in a backup storage system via a network, said computer system comprising:

a first controller provided in the storage system, which transfers data stored in said first storage unit, to said second storage unit using a block transfer protocol;

a storage area network (SAN) through which the transfer of data using the block transfer protocol is performed to said second storage unit;

a table provided at a server coupled to the network, wherein the table associates a file composed of a plurality of blocks of data with blocks of data constituting the file; and

a second controller provided at the server, wherein in response to information that identifies a particular data block to be transferred from said first controller via said SAN, identifies a file corresponding to the particular data block using said table and transfers the identified file to said second storage unit via a local area network (LAN) using a file transfer protocol,

wherein said SAN is configured to couple said [[the]] first controller and said [[the]] second controller and establish a path for data block transfer between said first storage unit and said second storage unit using the [[data]] block transfer protocol between said first storage unit and said second storage unit and another path for file transfer between said first storage unit and said second storage unit using the file transfer protocol through the server and the LAN,

wherein said table is provided in said second controller of the server and receives, from said first controller of the storage system, information indicating whether the particular data block has been transferred to said second storage unit of the backup storage system successfully in units of data blocks to allow said second controller to select the another path when the information indicates an unsuccessful transfer of the particular data block.

2. (Canceled)

3. (Previously presented) The computer system according to claim 1 wherein, upon detecting a transfer failure when transferring data, which is stored in said first

storage unit, using the block transfer protocol, said first controller notifies information to said second controller, said information identifying a particular block concerned with the transfer failure.

4. (Original) The computer system according to claim 3 wherein the identified file includes data of blocks other than the block related to the transfer failure.

5. (Previously presented) The computer system according to claim 4 wherein the data of blocks other than the block related to the transfer failure is data that has been transferred by said first controller via the SAN using the block transfer protocol.

6. (Currently amended) A computer system that transfers data from a first storage unit in a storage system to a second storage unit in a backup storage system via a SAN and a LAN, said computer system comprising:

a first controller provided in the storage system that transfers data stored in said first storage unit, to said second storage unit on a block basis via the SAN; and

a second controller provided at a server that transfers data, stored in said first storage unit, to said second storage unit on a file basis via the LAN,

wherein said second controller manages an association between a file composed of a plurality of first blocks of data and the blocks of data constituting the file based on a management table provided at the server defining the association and, upon receiving information identifying a particular data block of the plurality of first blocks to be transferred along a first path from said first storage unit to said second storage unit via the SAN, determines a file including the particular data block using the management table to be transferred along a second path from said first storage unit to said second storage unit via the server and the LAN on a file basis, the file being passed from said first storage unit to said second storage unit via the SAN,

wherein said management table in said [[the]] second controller of the server receives, from said first controller of the storage system, information indicating whether the particular data block has been transferred to said second storage unit of the backup storage system successfully in units of data blocks to allow said [[the]] second controller to select the second path when the information indicates an unsuccessful transfer of the particular data block,

wherein the SAN is configured to couple said first controller and said second controller and establish a path for data block transfer between said first storage unit and said second storage unit using a block transfer protocol between said first storage unit and said second storage unit using a file transfer protocol through the server and the LAN.

7. (Previously presented) The computer system according to claim 6 wherein, when the transfer on a file basis fails, said second controller identifies a plurality of second blocks related to the transfer-failed file and instructs said first controller to transfer data of the plurality of second blocks.

8. (Previously presented) The computer system according to claim 7 wherein said first storage unit comprises a main volume and a sub volume that store the same contents of data and wherein, when a transfer of data stored on said sub volume on a block basis fails, said first controller notifies information identifying a particular block of transfer-failed data to said second controller and, in response to an instruction to transfer data of a plurality of third blocks related to the transfer-failed file from said second controller, transfers data corresponding to the plurality of third blocks stored on said main volume on a block basis.

9. (Canceled)

10. (Currently amended) A data transfer method for transferring data from a first storage unit in a storage system to a second storage unit in a backup storage system via a network using a second controller, said second controller provided at a server and connected via a SAN to the backup storage system and a first controller that manages data stored in said storage system on a block basis using a block address, said second controller associating information identifying the block addresses with a file identifier for managing a file composed of a plurality of blocks on a file basis, the data transfer method comprising:

at said second controller,

in response to receiving from said first controller information identifying the block address of data to be transferred from said first storage unit to said second storage unit along a first path via the SAN, identifying a file identifier associated with the information identifying the block address;

providing information identifying a plurality of block addresses associated with the file identifier to said first controller;

in response to receiving information corresponding to the information identifying the plurality of block addresses from said first controller via the SAN, transferring the data from said first storage unit to said second storage unit along the first path on a file basis via a LAN with the file identifier attached to the data; and

receiving from said first controller information indicating whether the data has been transferred to said second storage unit of the backup computer system unit successfully in units of data blocks to allow the second controller to select a second path by which to transfer the data on a file basis from said first storage unit to said second storage unit when the information indicates an unsuccessful transfer of the data,

wherein the SAN is configured to couple said first controller and said second controller and establish a path for data block transfer between said first storage unit and said second storage unit using a block transfer protocol between said first storage unit and said second storage unit and another path for file transfer between said first storage unit and said second storage unit using a file transfer protocol through the server and the LAN.

11. (Previously presented) The data transfer method according to claim 10 wherein said second controller transfers a management table, which associates the information identifying block addresses with a file identifier, to said other computer system when data is transferred on a file basis.

12. (Original) The data transfer method according to claim 10 wherein the information identifying a block address is a logical block address.

13. (Previously presented) The data transfer method according to claim 10 wherein, upon detecting a failure during transfer of data to a storage system connected to said other computer system on a block basis, said first controller notifies the information identifying a block address to said second controller via the SAN.

14. (Original) The data transfer method according to claim 10 wherein said computer system notifies information identifying a block address to said first controller to request to transfer data on a block basis.

15. (Canceled)

16. (Currently amended) A computer-readable medium storing a program that causes a file server to transfer data from a first storage unit in a storage system to a second storage unit in a backup storage system via a SAN, said file server comprising a second controller connected via a fibre channel to the storage system ~~[[and]]~~, said storage system comprising a first controller ~~provided at a server~~ that manages data stored in said first storage unit on a block basis using a block address, said file server associating information identifying the block addresses with a file identifier for managing a file composed of a plurality of blocks on a file basis,

the program, when executed, performing the following actions:

upon receiving from said first controller information identifying the block address of data to be transferred from said first storage unit to said second storage unit along a first path via a LAN, causing said file server to identify a file identifier associated with the information identifying the block address and provide information identifying a plurality of block addresses associated with the file identifier to said first controller;

upon receiving information corresponding to the information identifying the plurality of block addresses from said first controller, causing said file server to transfer the data from said first storage unit to said second storage unit along the first path on a file basis with the file identifier attached to the data; and

receiving from said first controller information indicating whether the data has been transferred to said second storage unit successfully in units of data blocks to allow said second controller to select a second path by which to transfer the data on a data block basis from said first storage unit to said second storage unit when the information indicates an unsuccessful transfer of the data,

wherein the SAN is configured to couple said first controller and said second controller and establish a path for data block transfer between said first storage unit and said second storage unit using a block transfer protocol between said first storage unit and said second storage unit and another path for file transfer between said first storage unit and said second storage unit using a file transfer protocol through said file server and the LAN.